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|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | GOVERNMENT OF<br>NEWFOUNDLAND<br>AND LABRADOR<br>Department of Transportation and Infrastructure |                | <b>BRIDGE INSPECTION REPORT</b><br><b>B02182025-4</b> |  |
| <b>Date:</b> 2/13/2025                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Inspected By:</b> T Upshall / M Button                                                        |                | <b>Category:</b> Eng. - Engineering                   |  |
| <b>BRIDGE INFORMATION</b>                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                  |                |                                                       |  |
| <b>Site:</b>                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1-101 - LITTLE HARBOUR RIVER BRIDGE - R90                                                        |                |                                                       |  |
| <b>SUBSTRUCTURE</b>                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                  |                |                                                       |  |
| <b>Condition:</b>                                                                 | P3 - Poor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Bearings:</b>                                                                                 | P3 - Poor      |                                                       |  |
|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Bearing Seat:</b>                                                                             | P3 - Poor      |                                                       |  |
| <b>Comments:</b>                                                                  | Exterior bearings contain cracks and have formed large failure wedges/future spalls on the south abutment. Suspect these areas to spall within a couple of years. However, there will be adequate bearing area left for the girder, P3. NE exterior bearing has a medium-large spall from the corner to the bearing pad with more alligator cracking forming near the spall. Above issues caused by leaking expansion joints. Visible bearing pads are in fair condition. South abutment face contains medium to wide pattern cracking with light efflorescence. Very severe spalling and disintegration to SW abutment corner. Medium spall to SE abutment corner. North abutment has wide vertical cracks directly beneath bearings and medium pattern cracking with efflorescence throughout the face. Formwork and concrete debris accumulating on bearing seat. Wingwalls contain wide vertical, horizontal, and pattern cracking with medium efflorescence.                                                                                                                                   |                                                                                                  |                |                                                       |  |
| <b>SUPERSTRUCTURE</b>                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                  |                |                                                       |  |
| <b>Condition:</b>                                                                 | P3 - Poor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Expansion Joints:</b>                                                                         | P1 - Poor      |                                                       |  |
| <b>Comments:</b>                                                                  | Very severe spalling, delamination, disintegration, and wide cracks with exposed reinforcement to west exterior girder ends. East exterior girder end not as severe. West exterior girder has a medium spall on the bottom flange near the mid span (possible location of old deck drain) with a wide horizontal crack. Remaining east and west exterior girders (bottom flange and web above bearing seat) contains narrow horizontal cracks. Wide transverse cracks with medium efflorescence deposits in south diaphragm. Medium longitudinal and transverse cracks with light efflorescence in deck soffit at numerous locations. Severe honeycombing or erosion from leaking expansion joints in north ballast wall. Severe spalling and disintegration with exposed reinforcement to all expansion joint dams in curbs P1. Expansion joint seals are leaking and paved over causing rapid deterioration to the substructure and superstructure components below. East deck drains (old) leaking and causing staining on girders. Exterior girders, P3. Interior girders in fair condition, F1 |                                                                                                  |                |                                                       |  |
| <b>DECK</b>                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                  |                |                                                       |  |
| <b>Condition:</b>                                                                 | P3 - Poor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Curbs:</b>                                                                                    | P3 - Poor      |                                                       |  |
| <b>Hand Rail:</b>                                                                 | F2 - Fair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Roadway Condition:</b>                                                                        | P3 - Poor      |                                                       |  |
| <b>Approach Rail:</b>                                                             | F1 - Fair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                  |                |                                                       |  |
| <b>Comments:</b>                                                                  | *Assumed condition of deck top (covered in asphalt) based on condition of deck soffit below. Wide horizontal crack in NW curb fascia over wingwall. Severe abrasion to south interior curb exposing embedded expansion joint dam. Medium raveling and potholes in asphalt exposing deck. Expansion joints have been paved over and medium transverse alligator cracks have developed adjacent to the dam. Curbs have extensive cracking around expansion joints with near total disintegration in the area, P3. Approach/exit rail is standard guiderail and attached to end blocks with two bolts. Hazard markers in brush. End blocks have medium to wide cracks with efflorescence throughout.                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                  |                |                                                       |  |
| <b>HYDROLOGY</b>                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                  |                |                                                       |  |
| <b>Water Velocity:</b>                                                            | Tidal m/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Ice Problem:</b>                                                                              | N - No Problem |                                                       |  |
| <b>Water Depth:</b>                                                               | Tidal m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Scour Problem:</b>                                                                            | N - No Problem |                                                       |  |
| <b>Waterway:</b>                                                                  | 01 - Adequate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Debris Problem:</b>                                                                           | N - No Problem |                                                       |  |

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| <b>Comments:</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |      |
| <b>REPLACEMENT/REHABILITATION</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |      |
| <b>Next Rehab. Date:</b>          | 2026                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Replacement Year:</b>            | 2035 |
| <b>Antic. Rehab. Cost:</b>        | \$0                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Replacement Cost:</b>            | \$0  |
| <b>Recommendations:</b>           | Repair all abutment exterior bearing areas with proper dowels and pour back techniques. Replace expansion joints and deck concrete around expansion joints. Leakage causing heavy deterioration to girders and abutments below. Trim back brush on approach/exit rails. Re-seal old deck drains. Install guiderail structures with proper end shoe attachment to end blocks and hazard markers. Install waterproofing and new asphalt. |                                     |      |
| <b>OBSERVATIONS</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |      |
| <b>Overall Condition:</b>         | P1 - Poor                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Requires Further Inspection:</b> | No   |
| <b>Additional Observations:</b>   | F1 interior girders and underside of deck. P3 abutments, exterior bearing areas, deck soffit around expansion joints and exterior girder end. P1 expansion joints. Monitor exterior bearing areas, girder end blocks, and west girder longitudinal crack.                                                                                                                                                                              |                                     |      |

Department of Transportation and Infrastructure, Government of Newfoundland and Labrador 2026.